

Aero Design Ltd.**Work Order Control Sheet**Work Order#: **2017-19**Date Opened: **24 January 2017**Title: **Fabrication**Aircraft OEM: **Bell**Aircraft Model: **206L/407**Product Type: **Cargo Basket & Lid**Product Model: **High Ski**Quantity: **3, 2****Work Order Contents**

Work Order/Build Sheets (Procedures Provided)
 Additional Work Sheets (Standard Practice)
 Drawings (See List Below)
 Parts Distribution Sheet
 Sub Component Tags
 Completed Certification (Original)
 Time Sheet (R&D)
 Notes

Initial or N/A

JR
N/A
JR
JR
JR
JC
N/A
N/A

Build Sheet Contents

Tasks Initialled
 Dual Inspections Initialled

Initial or N/A

CB/JC
CB/JC

Drawing List

Drawing #	Rev #	Description	Initial or N/A
60632	1	Lid	JR
76610	0	Basket	JR
76611	0	Body	JR
76621	0	Fwd Mount Hoop	JR
76622	0	Aft Mount Hoop	JR
76623	0	Reg. Hoop	JR
84262	2	Basket Handle Prov.	JR

Traveller**Component Completion**

Quantity Complete on This Work Order
 Quantity Incomplete on This Work Order
 Further Processing Required Before Release
 Release to Stock as Components

As Instructed

2, 1
N/A
N/A
N/A

Certification

Form One Completed
 Serviceable (Green) Tag Completed
 In Process (Yellow) Tag Completed
 Unserviceable (Red) Tag Completed
 Parts Placed in Stores for Distribution

Initial or N/A

N/A
N/A
DM
N/A
N/A

Additional Documentation

Documentation of a minor change
 Non-Conformance Report Required
 Service Difficulty Report Required

Initial or N/A

N/A
N/A
N/A

Billing

Local (Aero Design)
 Research and Development
 Third Party

Initial or N/A

JC
N/A
N/A

Note

Due to a design change, this work order was not and will not be completed.

Work performed by:

Print: J. Rekve/D. Bartfai

ICC / Dual Inspection performed by:

Print: J. Clarke

Work Order closed by:

Print: J. Clarke

Approved Manufacturing Facility 73-04

Sign:

Sign:

Sign:

Form 20.D.03

SCA: AD01

SCA: AD02

SCA: AD02

Date: 18-Feb-17

Date: 18-Feb-17

Date: 10-Nov-17

Rev. Original 23 Sep 2014



Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature: Basket Body No. of pieces: 1

Manufacturer: Aero Design Ltd.

Part No.: 76611-01 Serial/Batch No.: NA

TTSN: NA TSO: NA Rem.: NA

Work Order No.: 2017-19-2

Remaining Tasks to be Performed: Prep for powder,
powder coat.

Signature: [Signature]

Date: Feb 15 / 2017 Lic. No. / SCA AD-05

In Process



Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

In Process

Remarks



Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature: 407 High Mount Ski No. of pieces: 1

Manufacturer: Aero Design Ltd

Part No.: 76611-01 Serial/Batch No.: N/A

TTSN: N/A TSO: N/A Rem.: N/A

Work Order No.: 2017-19-01

Remaining Tasks to be Performed: Powder Coat

Signature: Dan Bell

Date: Feb 14th 2017 Lic. No. / SCA AD-07

In Process



Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Remarks

In Process



Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature: Lug No. of pieces: _____

Manufacturer: Aero Design Ltd.

Part No.: 69823-02 Serial / Batch No.: _____

TTSN: N/A TSO: N/A Rem.: N/A

Work Order No.: 2014-70

Remaining Tasks to be Performed: weld in place

Signature: David Munt

Date: Feb 18 / 2016 Lic. No. / SCA AD-05

In Process



Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Remarks

In Process



Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature: Basket Lid No. of pieces: 1

Manufacturer: Aero Design Ltd.

Part No.: 60632-01 Serial/Batch No.: NA

TTSN: NA TSO: NA Rem.: NA

Work Order No.: 2017-19-01

Remaining Tasks to be Performed: Prep for powder,
powder coat.

Signature: David May

Date: Feb 14 / 2017 Lic. No. / SCA AD-05

In Process



Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

In Process

Remarks



Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature: Lug No. of pieces: 66

Manufacturer: Aero Design

Part No.: 69823-02 Serial / Batch No.: _____

TTSN: N/A TSO: N/A Rem.: N/A

Work Order No.: 2015-67

Remaining Tasks to be Performed: weld in place

Signature: [Signature]

Date: Feb 15/2016 Lic. No. / SCA AD-05

Form# 20.E.03 Rev. 1 24 April 2014

In Process



Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

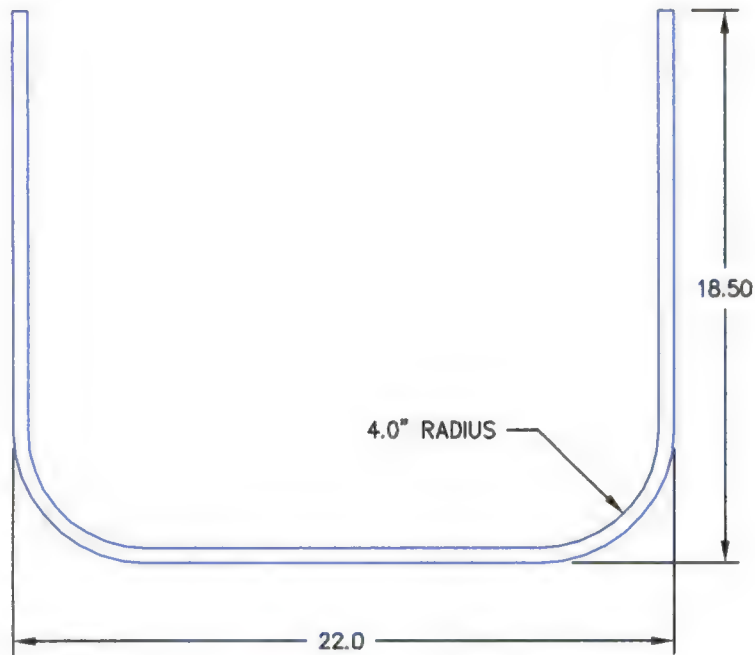
AMF 73-04

Remarks

In Process

2017-19

QTY	LIST OF MATERIALS					
01	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC.	STOCK SIZE
	50648-01	01	HOOP	4130 STEEL COND. N	MIL-T-6736	1/2" SQR x 0.035 WALL



(01) HOOP

NOTES:

1. REMOVE ALL BURRS AND SHARP EDGES.
2. DRILL 3/32" VENT HOLE IN BOTTOM OF HOOP FOR VENTING WELD GASES.

APPROVALS	DATE
DRAWN: JEFF CLARKE	26 SEPT 2007
CHECKED: E. BURGAIN	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES ON:

DECIMALS	ANGLES
X.XXX ±0.010	±1/2°
X.XX ±0.03	
X.X ±0.1	

AERO DESIGN LTD.

CONSULTING ENGINEERS, TRANSPORT CANADA APPROVALS, DAR 290M
2013 - 39TH AVENUE N.E., CALGARY, ALBERTA, CANADA, T2E 6R7
tel: (403) 250-8027 fax: (403) 250-8383 aerodesign@telusplanet.net

BELL 407 AND 206L SERIES
QUICK RELEASE HIGH MOUNTED CARGO BASKET
BASKET COMPONENTS - HOOP

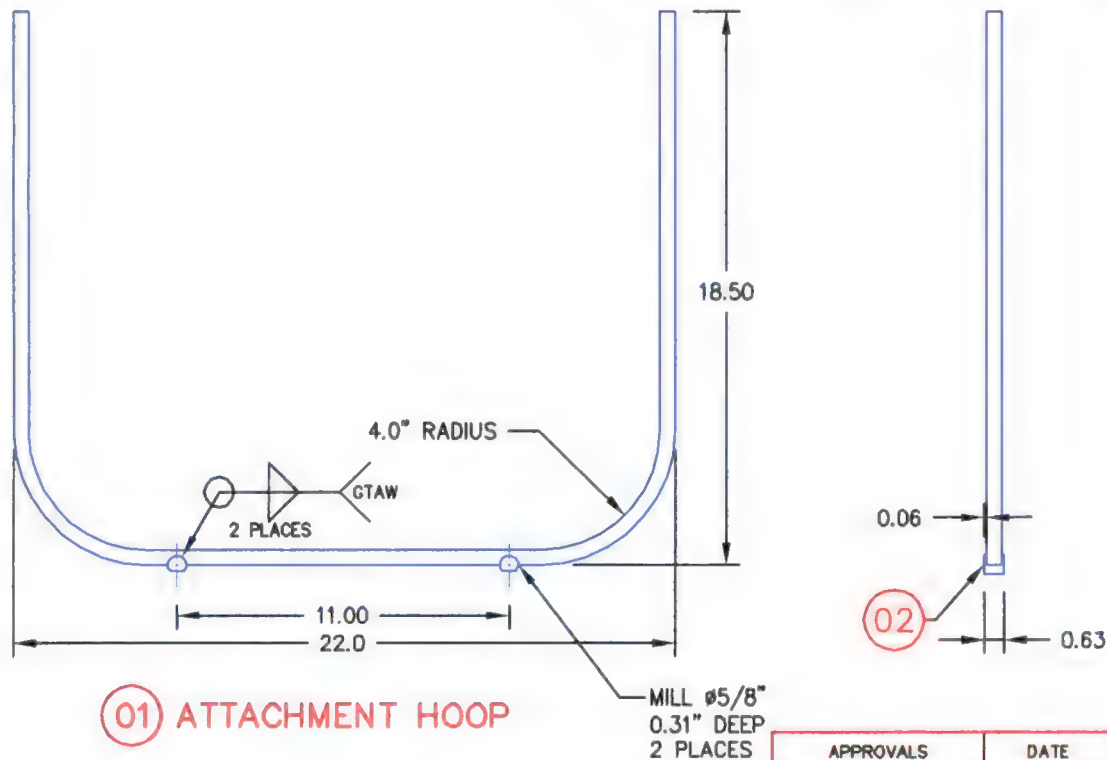
SCALE 1 : 5	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A1	76623	0

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
1			

NOTICE
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2017-19

QTY	LIST OF MATERIALS					
QTY	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC.	STOCK SIZE
1	76622-01	01	ATTACHMENT HOOP	4130 STEEL COND. N	MIL-T-6736	1/2" SQR x 0.035 WALL
2	69823-02	02	LUG	1018 CARBON STEEL	ASTM A108	#5/8" ROD



NOTES:

1. REMOVE ALL BURRS AND SHARP EDGES.
2. DRILL 3/32" VENT HOLE IN BOTTOM OF HOOP FOR VENTING WELD GASES.

APPROVALS	DATE
DRAWN: JEFF CLARKE	26 SEPT 2007
CHECKED: E. BURGON	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES ON:

DECIMALS	ANGLES
X.XXX ±0.010	±1/2°
X.XX ±0.03	
X.X ±0.1	

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tel: (403) 250-8027 fax: (403) 250-8383 arodesign@telusplanet.net

BELL 407 AND 206L SERIES
HIGH SIDE MOUNTED CARGO BASKET
BASKET COMPONENTS - ATTACHMENT HOOP

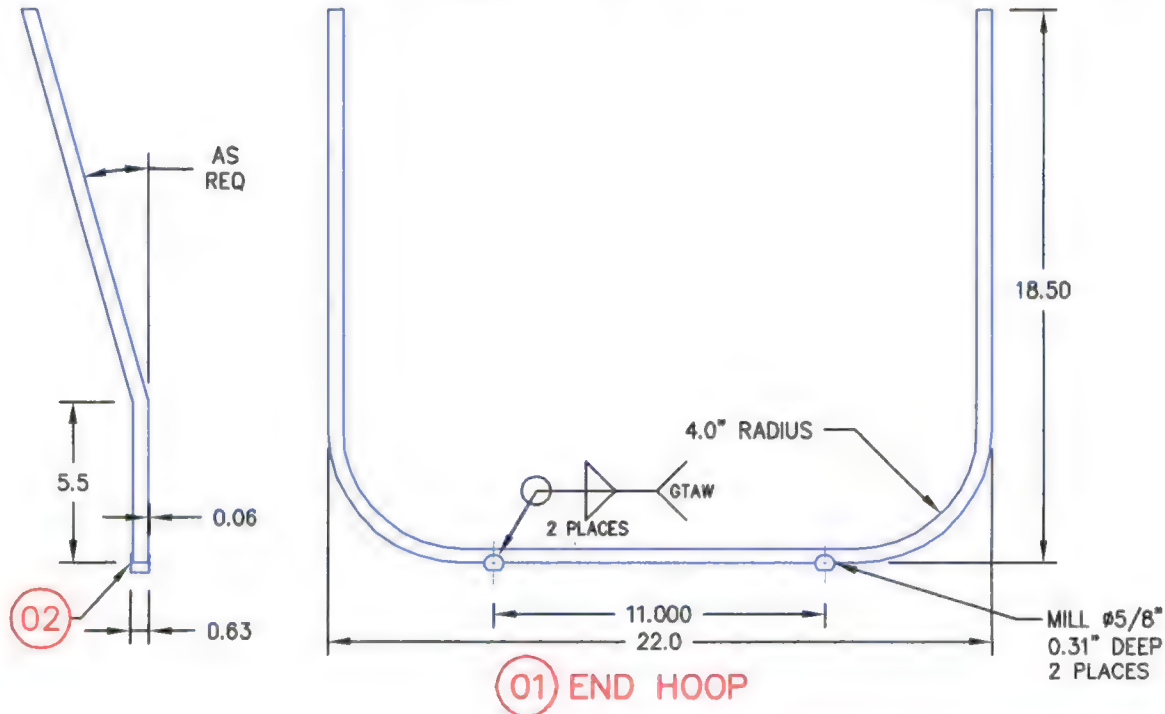
SCALE 1 : 5	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A1	76622	0

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2017-19

QTY	LIST OF MATERIALS					
01	PART NO.	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC.	STOCK SIZE
1	76621-01	01	END HOOP	4130 STEEL COND. N	MIL-T-6738	1/2" SQR x 0.035 WALL
2	69823-02	02	LUG	1018 CARBON STEEL	ASTM A108	#5/8" ROD



NOTES:

1. REMOVE ALL BURRS AND SHARP EDGES.
2. DRILL 3/32" VENT HOLE IN BOTTOM OF HOOP FOR VENTING WELD GASES.

APPROVALS		DATE	
DRAWN: JEFF CLARKE		26 SEPT 2007	
CHECKED: E. BURGOIN			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 ±1/2° X.XX ±0.03 X.X ±0.1			
<p>AERO DESIGN LTD. CONSULTING ENGINEERS, TRANSPORT CANADA APPROVALS, DAR 290M 2013 - 39TH AVENUE N.E., CALGARY, ALBERTA, CANADA, T2E 6R7 tel: (403) 250-9027 fax: (403) 250-8383 aerodesign@telusplanet.net</p> <p>BELL 407 AND 206L SERIES HIGH SIDE MOUNTED CARGO BASKET BASKET COMPONENTS - END HOOP</p>			
SCALE 1 : 5	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A1	76621	0

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
1			
<p>NOTICE THIS DRAWING CONTAINS INFORMATION AND DATA WHICH IS PROPRIETARY TO AERO DESIGN LTD. THIS DRAWING, OR ANY PORTION THEREOF, MAY NOT BE REPRODUCED, COPIED, OR DUPLICATED IN ANY MANNER, NOR USED FOR MANUFACTURING WITHOUT THE WRITTEN CONSENT OF AERO DESIGN LTD. BY ACCEPTING THIS DRAWING FOR REFERENCE, THE RECIPIENT AGREES TO HOLD AERO DESIGN LTD. HARMLESS FROM THE USE, OR MISUSE, OF THIS DRAWING OR THE INFORMATION CONTAINED THEREON.</p>			

Work Order: 2017-19

Material Tracking Sheet

1 of 1

Date Opened: 24 JAN 2017

Bell 206L / 407

HIGH Basket Hoops

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
Step 1	8		76623-01	Hoop	4130 Steel, 1/2" x 0.035 Sqr. Tube	15072
	2		76621-01	Hoop - attachment (forward)		
Step 1				Fabrication		
	1		49210-02	1/2" Tube - hoop	4130 Steel, 1/2" x 0.035 Sqr. Tube	15072
Step 2				Welding		
	2		69823-02	Lug	1018 Steel, 5/8" Rod	2015-67(3) 2014-70(6) 2017-28
	A/R		--	Welding Rod	ER70S-2	14005
Step 3				Inspection and Finishing	None	
	2		76622-01	Hoop - attachment (aft) - with handle provisions		
Step 1				Fabrication		
	1		--	1/2" Tube - hoop	4130 Steel, 1/2" x 0.035 Sqr. Tube	15072
Step 2				Welding		
	2		69823-02	Lug	1018 Steel, 5/8" Rod	
	2	84262	84272-01	Bushing	4130 Steel, 5/16" x 0.058 Rnd. Tube	2016-134
	A/R		--	Welding Rod	ER70S-2	14005
Step 3				Inspection and Finishing	None	



ARMOR ALLOYS

Edmonton, AB T. (780) 463-2207 Service@ArmorAlloys.com
Calgary, AB T. (403) 265-3190 Calgary@ArmorAlloys.com
Vancouver, BC T. (604) 942-2424 Vancouver@ArmorAlloys.com

100% Canadian Owned
24 / 7 After-Hour Service Available

Registered to ISO 9001

~~48"~~ ~~54"~~ bend @ $13\frac{13}{16}$

~~54 $\frac{1}{16}$ "~~ bend @ $13\frac{13}{16}$

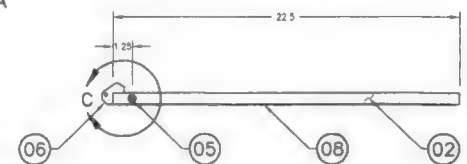
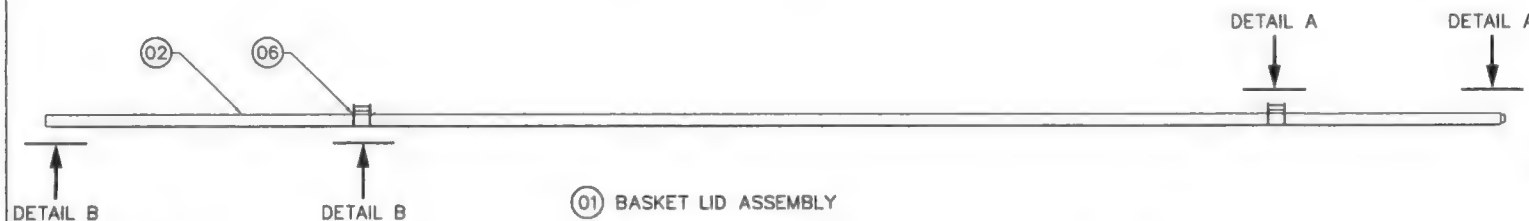
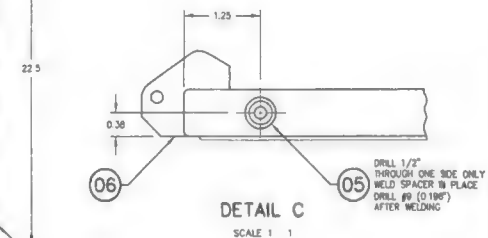
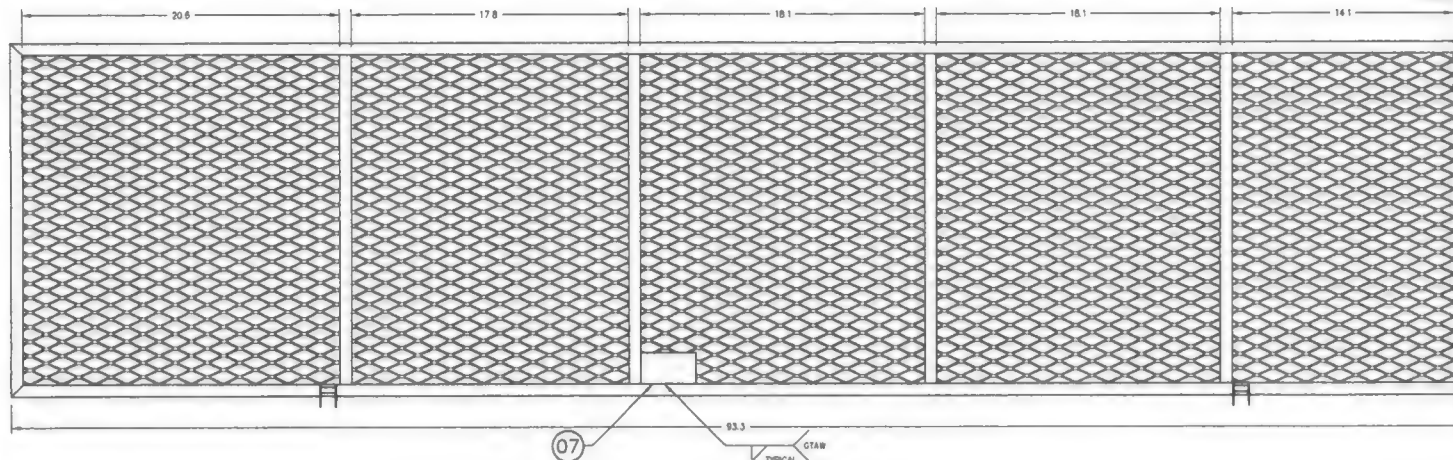
54 $\frac{1}{16}$ " / Bend @ $13\frac{13}{16}$

40" High Mount Stan
hoop :

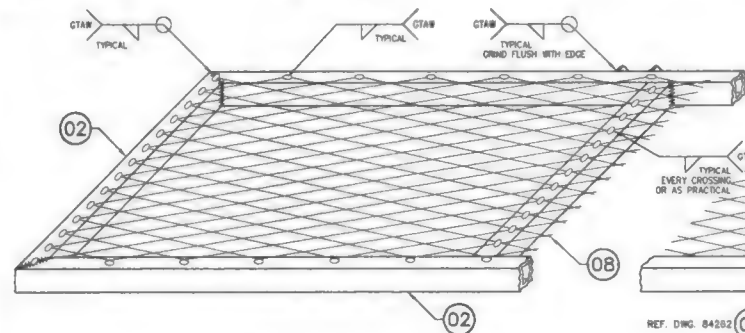
Stainless Steel & Alloy
Pipe, Fittings, Flanges, Valves, Tubing, Flex Hoses & Related Products

2017-19

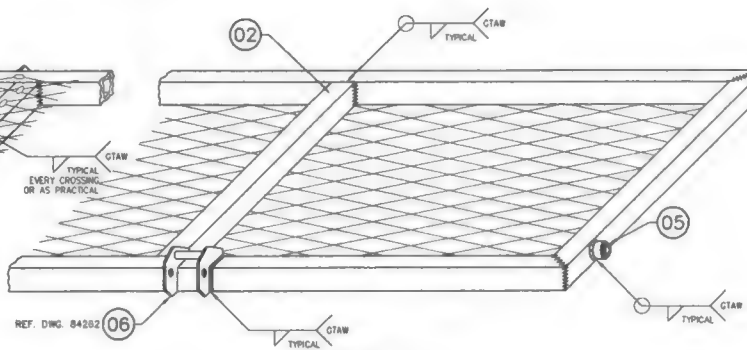
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REV	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		
1	HANDLE BRACKETS TO 842 CONFIG. REMOVE STEP SECTION SEE 70405	BUC	NOV 20/12



01 BASKET LID ASSEMBLY



DETAIL B
LOOKING AT BOTTOM



DETAIL A
LOOKING AT TOP

NOTES

1. REMOVE ALL BURRS AND BREAK SHARP EDGES
2. WELDING OF 4130 STEEL TO BE COMPLETED BY GTAW METHOD TO AWS 2683C WELDING ROD SHALL CONFORM TO ER70S-2 OR EQUIVALENT
3. WHEN ASSEMBLY IS COMPLETE, FILL ALL VENT HOLES WITH ROSETTE WELD
4. THOROUGHLY CLEAN AND POWDER COAT BASKET SUB-ASSEMBLIES PRIOR TO ASSEMBLY

A/R	3/4-18F	06	MESH		COMMERCIAL	16 GAUGE
1	36204-10	07	PLACARD BRACKET			
1	84262-D1	06	UPPER HANDLE BRACKET ASSY			
1	49218-01	05	LUG			
		04				
A/R	--	02	3/4" TUBE	4130 STEEL COND N	MIL-T-6736	0.75 X 0.035 SOR TUBE
	60632-01	01	BASKET LID ASSEMBLY			
PART NO	ITEM	DESCRIPTION	MATERIAL	MATERIAL SPEC		
QTY						

LIST OF MATERIALS

APPROVALS		DATE	AERO DESIGN LTD.			
DRAWN	JEFF CLARKE	12 AUG 2004	CONSULTING ENGINEERS TRANSPORT CANADA APPROVALS, DAR 200M			
CHECKED	E. BURGOIN		2015 - 30TH AVENUE N.E., CALGARY, ALBERTA, CANADA, T2E 6B7			
			Tel: (403) 260-8887 Fax: (403) 260-8890 aerodesign@rednetplanet.com			
			BELL 407, 206L SERIES			
			HIGH SIDE MOUNTED CARGO BASKET			
			CARGO BASKET LID ASSEMBLY			
			SCALE 1 OF 1	DWG SIZE	DWG NO	REV
			A1	60632	1	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES ON:
DECIMALS ±0.010
X.XXX ±0.03
X.X ±0.1

CARGO BASKET LID FABRICATION - COMMON

2017-19
407 Hgt Lids x (2)

General

These instructions apply to all cargo basket lid assemblies. Refer to the following drawings, at the current revision, for dimensions and details:

Bell 206L/407 – Right side only

69812, Revision 3 – Standard Low Mounted Basket; Extra-Wide Low Mounted Basket

94612, Revision 0 – Extra-Wide Low Mounted Ski Basket

76612, Revision 0 – High Mounted Ski Basket ← *

Eurocopter AS350/AS355 – left or right

77612, Revision 1 – Short Basket

69812, Revision 3 – Medium Basket (left and right)

78412, Revision 2 – Long Basket

94012, Revision 0 – Extra Large (ski) Basket

Robinson R44 – left or right

90612, Revision 0 – Standard Basket (left or right)

Bell 206B – right side only

80212, Revision 0 – Short Basket

80312, Revision 0 – Medium Basket

81112, Revision 0 – Long Basket

Bell 429 – right or left

95912, Revision 0 – Standard Basket

Bell Medium – left or right

75112, Revision 0 – Standard Basket

95512, Revision 0 – Extra Large (ski) Basket

MD600

82812, Revision 0 – Standard Basket

Options

70405, Revision 3 – Walkway

70402, Revision 1 – Lid Door

CARGO BASKET LID FABRICATION

Complete
(initial or SCA #)

Work Order: 2017-19

Date Open: 24 JAN 2017

1. Rim Assembly – Basket Lid

- Cut and fit $\frac{3}{4}$ " x 0.035 material to fit rim jig, 45 degree ends.
 - 1 or 2 lid prop bushing holes in short tube – refer to drawing
- Record material PO on attached material list.
- Remove writing on tubes with acetone and scotch bright.

AD
73-04
07
N/A

2. Weld Rim Assembly

- Record welding rod PO on attached material list.

AD
73-04
05
N/A

3. Inspection

- Rim for complete welds

AD
73-04
05
N/A

4. Frame assembly – Lid

- General
 - Vent holes shall be #30 (0.129), and located inside the structure wherever possible to allow venting of weld gasses through existing holes (i.e. lid prop bushing)
- Insert rim from step 2 into jig.
- Cut and fit $\frac{3}{4}$ " x 0.035 material, 21" long, for lid cross members.
- Record material PO on attached material list.
- Remove writing on tubes with acetone and scotch bright.
- Drill vent holes into rim to vent cross members into rim.
- Locate cross members in lid rim. Refer to drawing for spacing of cross members. Clamp cross members with C-clamps to jig.

AD
73-04
05
N/A

5. Frame assembly – Lid with optional walkway modification

- Fit cross members to rim in accordance with step 4.
- Attach walkway jig with C-clamps. Ensure correct orientation of rim, refer to drawing.
- Cut $\frac{1}{2}$ " x 0.035 material for walkway stringers to fit between lid cross members. Record material PO on attached material list.
- Drill vent holes into cross members at walkway stringers.
- Align walkway stringers on walkway jig using cleco clamps near both ends of each stringer, and clamp stringer to jig using a C-clamp in the centre.

AD
73-04
05
N/A

6. Weld frame assembly.

- Record welding rod PO on attached material list.
- Jigs must remain in place for as long as practical during welding.

AD
73-04
05
N/A

7. Inspection

- Frame assembly for complete welds.

AD
73-04
05
N/A

CARGO BASKET LID FABRICATION

AD
73-04
07 Complete
(Initial or SCA #)
N/A

8. Mesh assembly.

Note: 95912 (Bell 429) does not have mesh. Skip to step 10.

- Pull sheet of expanded mesh from stock. Record material PO on attached material list.
- Cut mesh to size for lid.
- Remove surface rust with scotch-brite.
- Ensure lid is prepared for mesh on the correct side.

AD
73-04
05 N/A

9. Weld mesh to frame assembly per drawing.

- General welding requirements for all lids:
 - Every intersection on all edges.
 - First 5 intersections along cross members, then every second intersection.
- MIG weld both short sides.
- Clamp lid over spacer at centre of lid to pre-tension mesh.
 - $\frac{3}{4}$ " for lids under 76"
 - 1" (check) for lids over 76"
- Weld remainder of mesh as indicated in a.
- Record welding rod PO on attached material list.

AD
73-04
05 N/A

10. Weld lid components.

- Handle brackets, locate in accordance with drawing.
 - Standard location: $\frac{1}{4}$ " outside of last cross member on both ends.
 - Record handle bracket WO and welding rod PO on attached material list.
- Lid prop bushing(s).
 - one or two in accordance with drawing.
 - Record lip prop bushing WO and welding rod PO on attached material list.
- Placard bracket. — not installed on 95912 (Bell 429)
 - Locate on cross member to set bracket in centre bay of lid.
 - Record placard bracket WO and welding rod PO on attached material list.

AD
73-04
01 N/A

11. Clean up

- Grind high spots off mesh welds.
- Tighten mesh using special pliers. Tighten enough to remove "oil canning", where mesh springs in or out.
- Straighten lid using frame attached under welding table. Work carefully, avoid excessive force to prevent kinking rim tubes.
- Drill #9 through lid prop bushing(s). De-burr hole(s).
- Drill for lid bumpers using $\frac{1}{4}$ " (#3) centre drill.
 - 3 places for lids under 76"
 - 4 places for lids over 76"
- Remove surface rust with scotch-brite pad.

12. Final Inspection

To be completed by a different person than the previous steps.

- Basket lid assembly for complete welds, and required minimum mesh weld locations.
- Material lists complete.
- Overall condition and conformity to drawing(s).

AD
73-04
01 N/A

CARGO BASKET LID FABRICATION

Complete

(initial or SCA #)

OK

N/A

13. Powder Coating

- a. Parts are to be powder coated white in accordance with commercial practices.
- b. Record powder coating PO.
- c. Inspect powder coating on receiving.
- d. Tag lid assembly and place into stock in preparation for assembly.

OK

Work Order: 2017-19Date Opened: 24 JAN 2017

Material Tracking Sheet

Bell 206L / 407

HIGH Lid Fabrication

1 of 2

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
	<u>1</u>		60632-01	Lid Assembly		
Step 1				<i>Rim Assembly</i>		
	<u>. 2</u>		--	3/4" Tube - Long Rim (93.25")	4130 Steel, 3/4" x 0.035 Sqr. Tube	<u>15072</u>
	<u>. 2</u>		--	3/4" Tube - Short Rim (22.5")	4130 Steel, 3/4" x 0.035 Sqr. Tube	<u>15072</u>
Step 2				<i>Weld Rim Assembly</i>		
	<u>. A/R</u>		--	Welding Rod	ER70S-2 TIG Rod	<u>14033</u>
Step 3				<i>Inspection - Rim</i>	None	
Step 4				<i>Frame Assembly</i>		
	<u>. 4</u>		--	3/4" Tube - Cross Member (21")	4130 Steel, 3/4" x 0.035 Sqr. Tube	<u>15072</u>
Step 5		70405		<i>Option: Frame Assembly - with walkway</i>		
	<u>. 10</u>		--	1/2" Tube - walkway	4130 Steel, 1/2" x 0.035 Sqr. Tube	<u>15072</u>
Step 6				<i>Weld Frame Assembly</i>		
	<u>. A/R</u>		--	Welding Rod	ER70S-2 TIG Rod	<u>14033</u>
Step 7				<i>Inspection - Frame Assembly</i>	None	
Step 8				<i>Mesh Assembly</i>		
	<u>. 1</u>		--	Mesh (lid - 93" x 22")	3/4-16F Expanded Mild Steel sheet	<u>16038</u>
Step 9				<i>Weld Mesh</i>		
	<u>. A/R</u>		--	Welding Rod	ER70S-6 MIG Wire	<u>15059</u>

Work Order: 2017-19

Material Tracking Sheet

2 of 2

Bell 206L / 407

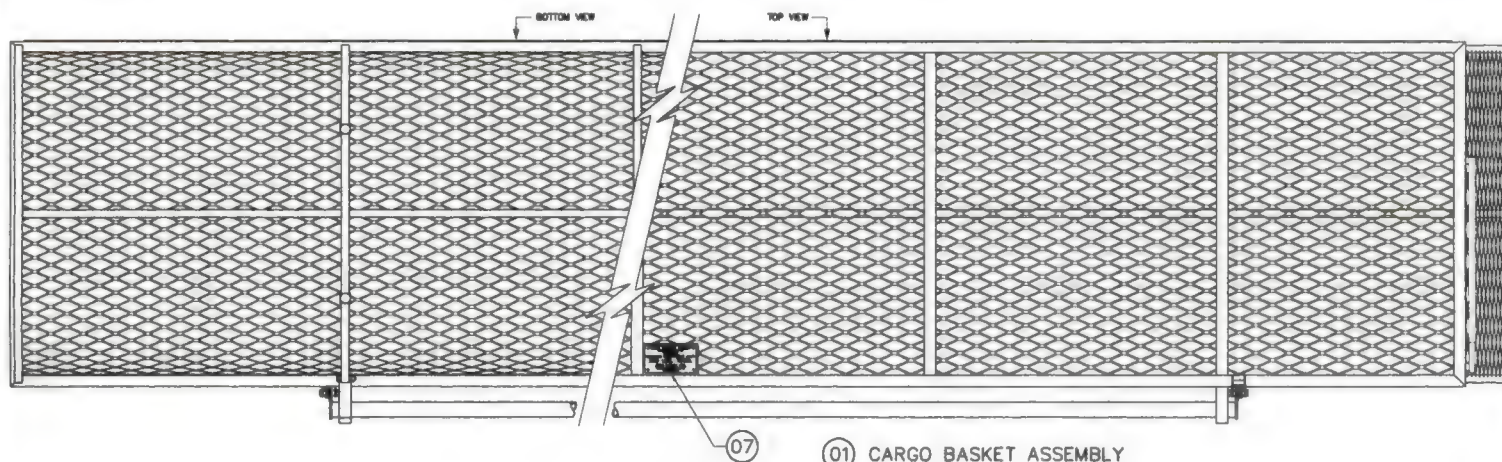
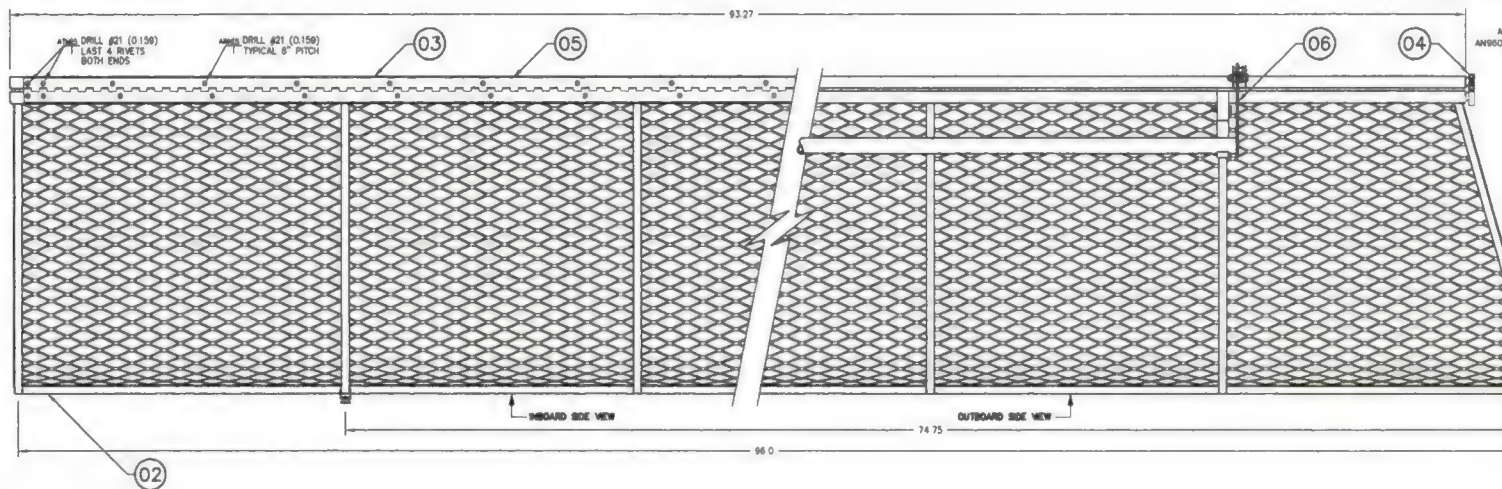
Date Opened: 24 JAN 2017

HIGH Lid Fabrication

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
Step 10				<i>Weld Lid Components</i>		
Step 10.a.	. 1	84263	84263-01	Lid Handle Bracket Assembly		2016-147
	. . 2		84263-02	Handle Bracket Assembly	321 Stainless, 0.050 Sheet	
	. A/R		--	Welding Rod	ER308L TIG Rod	14028
Step 10.b.	. 2		49216-01	Spacer (Lid prop)	304 Stainless, 1/2" Dia.	2015-84
	. A/R		--	Welding Rod	ER308L TIG Rod	14028
Step 10.c.	. 1		36204-10	Placard Bracket	1018 Steel, 0.035" Sheet	2016-119
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	14005
Step 11				<i>Clean Up</i>		
Step 12				<i>Inspection - Final Assembly</i>		
Step 13				<i>Powder Coating</i>		

2017-19

REV	DESCRIPTION OF CHANGE	INITIALS	DATE
0	CREATED FROM 60630	BUC	SEPT 25/07
1	HANDLE UPDATED TO 842 CONFIGURATION	BUC	NOV 20/12



NOTE:
1. ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY. DIMENSIONS OF COMPONENTS AND COMPLETE ASSEMBLY ARE DETERMINED IN PREVIOUS STEPS.

QTY	PART NO	ITEM	DESCRIPTION	MATERIAL
2	MS21044N3	NUT		
2	AN970-3	WASHER		
3	AN960-10	WASHER		
1	AN3-17A	BOLT		
1	AN3-15A	BOLT		
4	CR3213-4-02	CHERRY RIVET		
8	CR3523-5-02	CHERRY RIVET		
A/R	CR3213-5-02	CHERRY RIVET		
A/R	AN960-816	WASHER		
4	40088-14	FITTING	ANCHRA	
A/R	49205-14	08 BUMPER	ARGUS INDUSTRIES	
1	76625-01	07 PLACARD		
1	84255-01	06 HANDLE BAR INSTALLATION		
1	MS20001P4	05 PLING HINGE		
1	36280-01	04 BRACE ASSEMBLY		
1	60632-01	03 LID ASSEMBLY		
1	76611-01	02 BASKET BODY ASSEMBLY		
1	76610-01	01 CARGO BASKET ASSEMBLY		

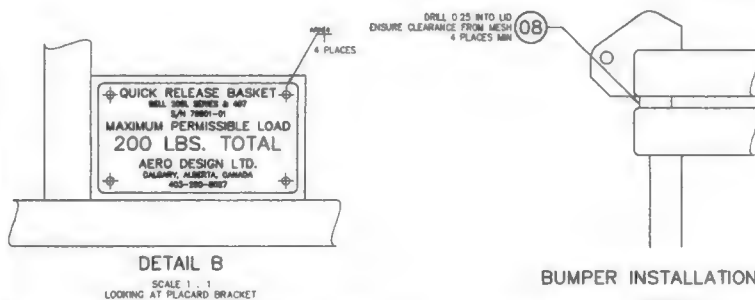
LIST OF MATERIALS

AERO DESIGN LTD.

CONSULTING ENGINEERS, TRANSPORT CANADA APPROVALS, DAR 200M
8013 - 36TH AVENUE N.E., CALGARY, ALBERTA, CANADA, T2E 6R7
Tel: (403) 890-8007 Fax: (403) 890-0920 aerd@telusnet.net

BELL 407, 206L SERIES
QUICK RELEASE HIGH MOUNTED CARGO BASKET
CARGO BASKET ASSEMBLY

SCALE	SHEET	SIZE	REV
1	1	A1	76610

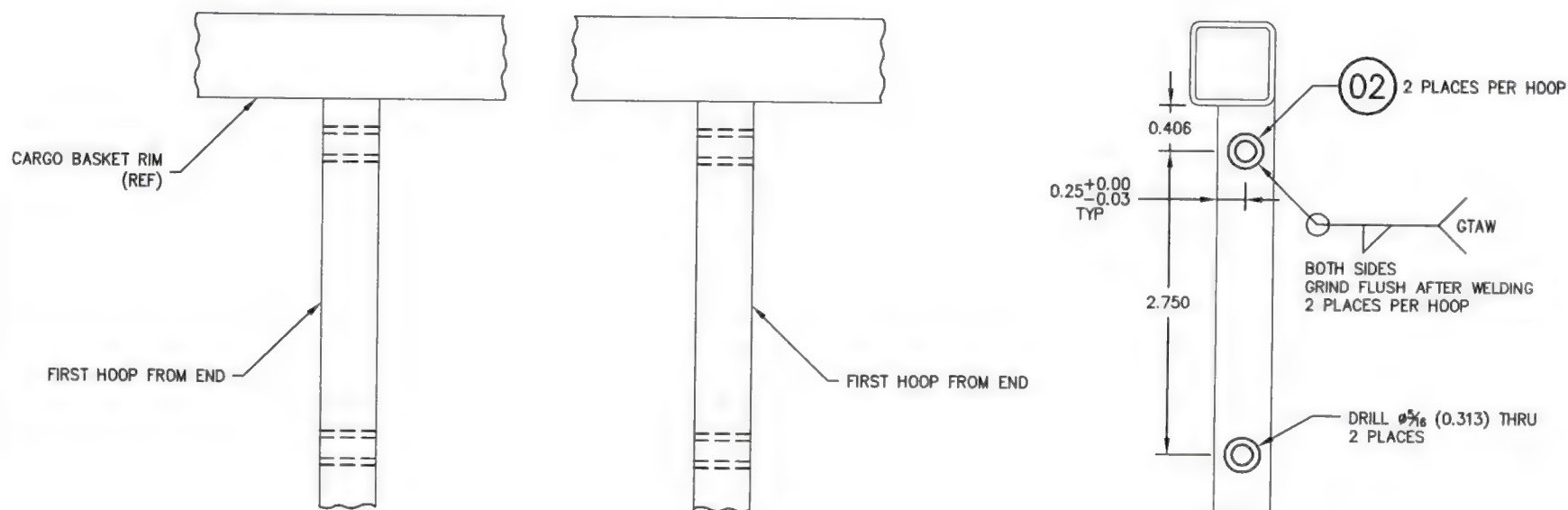


BASIC CODE	DASH NO FOR DIAMETER	APPROVALS	DATE
REF. WAS 523	N=MFD HEAD NEAR SIDE F=MFD HEAD FAR SIDE	DRAWN: JEFF CLARKE	25 SEPT 2007
C-COUNTERSINK	DASH NO FOR LENGTH	CHECKED: E. BURGON	
D=DIAMPLE DIGIT# OF SHEETS TO BE DIMPLED		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON	
BASIC CODES	+ INSTALL NEW RIVET	DECIMALS	ANGLES
BU=MS20470AD	+ REMOVE/REPLACE RIVET	X.XXX ±0.010	±1/2°
BB=MS20420AD	- EXISTING RIVET	X.XX ±0.03	
ARN=CR3213		X.X ±0.1	
ATM=CR3523			

2017-19

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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE - CREATED FROM 36262	BJC	03/11/2009
1	CHANGE LOCATION OF BUSHINGS	BJC	29/09/2011
2	UPDATED TITLE BLOCK, MOVE LID PROVISIONS TO 84263	BJC	14/02/2014



01 BASKET HANDLE PROVISIONS ASSEMBLY PROVISIONS TO BE INSTALLED IN HOOPS BEFORE ASSEMBLY TO BASKET RIM

NOTES:

1. REMOVE ALL BURRS AND SHARP EDGES.
2. WELDING TO BE COMPLETED BY GTAW METHOD TO AMS2685C USING ROD CONFORMING TO ER70S-2 OR EQUIVALENT.

4	84272-01	02	BUSHING
	84262-01	01	BASKET HANDLE PROV. ASSY
01	PART NO.	ITEM	DESCRIPTION
QTY	LIST OF MATERIALS		

APPROVALS	DATE
DRAWN: JEFF CLARKE	03 NOV 2009
CHECKED: E. BURGOIN	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES ON:
DECIMALS ANGLES
X.XXX ±0.010 ±1/2°
X.XX ±0.03
X.X ±0.1



AERO DESIGN LTD.

9888A MALASPINA ROAD
POWELL RIVER, BC, CANADA, V8A 0G3
TEL: 604.483.8375 www.aerodesign.ca

HELICOPTER CARGO BASKET
BASKET HANDLE PROVISIONS ASSEMBLY

SCALE 1 : 1	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A3	84262	2

2017-19

407 HIGH X (3)

CARGO BASKET BODY FABRICATION - COMMON

General

These instructions apply to all cargo basket body assemblies. Refer to the following drawings, at the current revision, for dimensions and details:

Bell 206L/407 – Right side only

69811, Revision 3 – Standard Low Mounted Basket

94511, Revision 0 – Extra-Wide Low Mounted Basket

94611, Revision 0 – Extra-Wide Low Mounted Ski Basket

76611, Revision 0 – High Mounted Ski Basket

Options 70404, Revision 2 – Front end cutout – 698

70411, Revision 0 – Front end cutout – 945/946

Eurocopter AS350/AS355 – left or right

77611, Revision 1 – Short Basket

76411, Revision 3 – Medium Basket (left or right)

78411, Revision 2 – Long Basket

94011, Revision 0 – Extra Large (ski) Basket

Options 70406, Revision 2 – Front end cutout – 764/776/784/940

Robinson R44 – left or right

90611, Revision 0 – Standard Basket (left or right)

Bell 206B – right side only

80211, Revision 0 – Short Basket

80311, Revision 0 – Medium Basket

81111, Revision 0 – Long Basket

Options 70406, Revision 2 – Front end cutout – 802/803/811

Bell 429 – right or left

95911, Revision 0 – Standard Basket

Bell Medium – left or right

75111, Revision 0 – Standard Basket

95511, Revision 0 – Extra Large (ski) Basket

Options 70407, Revision 1 – Front end cutout – 751

704, Revision – Front end cutout – 955

MD600

82811, Revision 0 – Standard Basket

Options – Applicable to all models

70403, Revision 5 – Auxiliary Latch

CARGO BASKET BODY FABRICATION - COMMON

Work Order: 2017-19

Date Open: 24 JAN 2017

Complete

(initial or SCA #)

2 3

AD
73-04
07

AD
73-04
07

N/A

1. Rim Assembly – Basket Body

- Cut and fit $\frac{3}{4}$ " x 0.035 material to fit rim jig.
 - 1 or 2 lid prop bushing holes in short tube – refer to drawing
- Record material PO on attached material list.
- Remove writing on tubes with acetone and scotch bright.
- For extra large baskets – drill #30 (0.129) vent holes to vent stringer tubes into rims.
- 94611 (206L/407 XL ski) only – drill for 4 threaded bushings before assembling rim

2. Weld Rim Assembly.

- Record welding rod PO on attached material list.
- 94611 (206L/407 XL ski) only – weld 4 threaded bushings into inboard rim tube.

AD
73-04
05

AD
73-04
05

N/A

3. Inspection

- Rim for complete welds

AD
73-04
05

AD
73-04
05

N/A

4. Frame assembly – body

- General
 - Vent holes shall be #30 (0.129), and located inside the structure wherever possible to allow venting of weld gasses through existing holes (i.e. lid prop bushing, hoops, etc.)
- Grind corner welds from step 2 on rim to allow hoops to sit flat.
- Pull required hoops from stock - standard, attachment, handle.
 - If hoops are not in stock see detailed procedure sheet for specific hoop fabrication.
 - Ensure vent hole is located at centre of tube to vent spine tubes.
- Assemble hoops with attachment lug locating jig and hoop spacing jig.
 - Ensure correct order and orientation of hoops. Refer to drawing.
 - Attachment lugs are on inboard side.
 - Handle bracket bushings are on outboard side, second hoop from both ends. May be on attachment hoops.
 - Run 3/8-24 tap into attachment lugs to ensure clear threads.
 - Bolt attachment lug locating jig to attachment hoops with 3/8-24 bolts.
 - Attach inboard and outboard hoop spacing jigs to all hoops using 1" C-clamps. Raise jigs approximately 2" off table to allow room to weld around hoops.
 - Attach bottom (spine) jig to all hoops using 1" C-clamps along the centre line of the basket. Ensure jig is straight prior to tightening all clamps.
- Cut $\frac{1}{2}$ " x 0.035 material to fit spine jig.
- Cut $\frac{1}{2}$ " x 0.035 material for strut to fit from lower inboard attachment to upper outboard rim.
 - Refer to applicable drawing for position, not required on some baskets.
- Option: Cut $\frac{1}{2}$ " x 0.035 material for front end cutout. Record material PO on attached material list.
- 90611 (R44) only: Cut $\frac{1}{2}$ " x 0.035 material to fit front end structure. Record material PO on attached material list.
- Drill vent holes into attachment hoop and/or rim to vent strut(s) and front end cutout.

AD
73-04
05

AD
73-04
05

N/A

CARGO BASKET BODY FABRICATION - COMMON

Complete
(initial or SCA #)

- j. Record hoop WOs and material POs on attached material list. 1 2 3
- k. Remove writing on tubes with acetone and scotch bright.
- l. Insert rim assembly into jig and set frame assembly onto rim. Ensure correct orientation of lid prop bushings in rim to frame. Bushing hole must be closer to attachment side.
- m. Align hoops to rim in accordance with drawing. General positions:
 - i. Extra large baskets
 - 1. inboard side of hoops (attachment side) aligns to OUTSIDE of rim
 - 2. outboard side of hoops (handle side) aligns to INSIDE of rim
 - 3. forward and aft hoops align to INSIDE of rim
 - ii. All other baskets
 - 1. inboard side of hoops (attachment side) aligns to INSIDE of rim
 - 2. outboard side of hoops (handle side) aligns to INSIDE of rim
 - 3. forward and aft hoops align to INSIDE of rim, except R44 AD AD

5. TIG weld frame to rim assembly.

- a. Ensure lug locating jig and hoop locating jigs are in place. Jigs must remain in place for as long as practical during welding.
- b. Strut tubes and front end cutout (see step 4.f. and g.) must be welded in place after the hoops are welded to the rim. Jig(s) must be in place prior to welding strut tubes.
- c. Robinson R44 (90611) requires fitting and welding of forward end after remainder of basket frame is welded. Use jig to support front hoop.
- d. Record welding rod PO on attached material list.

6. Inspection

- a. Frame assembly for complete welds.

7. Mesh assembly.

- a. Pull sheet of expanded mesh from stock. Record material PO on attached material list.
- b. Cut mesh to size for body.
- c. Remove surface rust with scotch-brite.
- d. Bend body mesh – use table with bend markings on top. Lock wheels on table.
 - i. For extra wide baskets only –
 - 1. Set $\frac{3}{4}$ " angle along edge of table under mesh sheet. Set 1.5" square tube on top of mesh aligned with angle on edge of table. Clamp in place with 6" C-clamps.
 - 2. Bend upper edge of sheet just past a cell intersection to make a flange 2.5" - 3.25" wide. Closer to 2.5" is preferred, full cell intersection on flange side at bend is required.
 - 3. Bend down by hand as far as possible, then use a hammer to flatten the bend tight against the angle on the edge of the table.
 - ii. Using markings on table, align sheet to indicated edge.
 - iii. Using markings on table, align 3" tube to required position and clamp tube in place.
 - iv. Bend mesh by hand tightly over tube along length of tube.
 - v. Keeping mesh in place, un-clamp 3" tube, move to other position and clamp tube in place.
 - vi. Bend mesh by hand tightly over tube along length of tube.
- e. Install attachment lug jig onto basket frame.

- f. Ensure end struts are welded in basket frame if required by the drawing.
- g. Insert mesh into basket.
 - i. General
 - 1. Some cells may interfere with correct positioning, especially at the upper corners and around struts. Bend cell(s) in as required, do not cut cells off.
 - 2. Ideally welds will be located on mesh intersections. Shift mesh if possible to minimize welds located off mesh intersections.
 - 3. Ensure mesh reaches all edges of basket BEFORE trimming. Regardless of progress in clamping, remove clamps and shift mesh if required.
 - 4. Ensure cleco clamps are placed from the inside of the basket to allow removal during welding. Cleco clamps may be used from the outside during fitting, but must be removed prior to welding.
 - ii. Extra large baskets only – seat corner of mesh with flange into inboard upper corner of frame. Use C-clamps on edge of flange as required to maintain tight fit.
 - iii. Starting at inboard top edge of basket, clamp mesh to hoop near top rim using cleco clamps onto hoops. For regular size baskets, edge of mesh should sit approximately half way up rim tube.
 - iv. Working down the inboard side, clamp mesh to hoops with cleco clamps. Clamp down into radius of hoop and continue clamping as required to maintain tight fit in corner of hoop. After the corners are tight, two clamps just onto the radius on both ends should be sufficient to hold the corner tight, remove all extra clamps.
 - v. Clamp mesh to spine in at least 1 place per section.
 - vi. Working up the outboard side, clamp the mesh into the radius of hoop and continue clamping as required to maintain tight fit in corner of hoop. After the corners are tight, 2 clamps just onto the radius on both ends should be sufficient to hold the corner tight, remove all extra clamps.
 - vii. Trim upper outboard edge of mesh if required, edge of mesh must be low enough on rim tube to prevent the weld from protruding above the edge of the rim. Some sheets are tapered and may require $\frac{1}{2}$ to 1 cell to be removed over some or all of the length of the basket. De-burr cut edges with a sanding disc on a die-grinder. Straighten cut cells with duck-bill pliers. Clamp mesh near upper edge to hoops with cleco clamps after trimming.
 - viii. Trim ends to land on hoops, at mesh intersections if possible.
- h. Cut mesh to fit ends. Record material PO on attached material list.
 - i. Remove surface rust with scotch-brite.
 - ii. Ensure mesh is cut at intersections where possible.
 - iii. Bend top edge of mesh $1/8''$ - $3/16''$ down at 45 degrees
 - iv. Cut for front end cutout if required.
- i. 90611 (R44) only: Cut mesh to fit upper forward end. Record material PO on attached material list.
 - i. Remove surface rust with scotch-brite.
 - ii. Ensure mesh is cut at intersections where possible.
 - iii. Bend top edge of mesh $1/4''$ down at 60 degrees.
 - iv. Fit mesh to front end of basket.

CARGO BASKET BODY FABRICATION - COMMON

8. Weld mesh to frame assembly per drawing.

- Ensure lug locating jig is in place prior to welding.
- General welding requirements for all baskets, MIG welding:
 - Every intersection at top edges.
 - Every intersection at ends.
 - First 5 intersections down on hoops, then every second intersection.
 - Every intersection along spine.
 - Extra large baskets – every intersection along corner.
 - Every intersection around ends
 - Every intersection along struts (if applicable)
- Bend and trim cells bent in to fit mesh as required and weld in position.
- Grind high spots off body mesh welds on ends before welding end mesh.
- 90611 (R44) only – weld lid prop bushing (step 9) into rim BEFORE welding upper mesh on forward end of basket assembly.
- Record welding rod PO on attached material list.

9. Weld basket components

- TIG weld lid prop bushing(s), one or two per drawing.
 - Record welding rod PO on attached material list.
 - Record lip prop bushing WO on attached material list.
- TIG weld caps to close top of 1" hoops as applicable.
- 94611 (Bell206L/407 XL ski) only: cut rim over cross tube gap.
 - Cut inboard rim on aft end. Grind flush with hoops.
 - TIG weld caps on open tubes.
 - Record cap material PO on attached material list.
- 95911 (Bell 429) only: placard bracket to forward upper corner of basket.
 - Record welding rod PO on attached material list.
 - Record placard bracket WO on attached material list.

10. Clean up

- Grind high spots off mesh welds.
- Tighten mesh using special pliers. Tighten enough to remove "oil canning", where mesh springs in or out. Do not tighten in corners of hoops, mesh will be deformed.
- Drill #9 through lid prop bushing(s). De-burr hole(s).
- Remove surface rust with scotch-brite pad.

11. Final Inspection

To be completed by a different person than the previous steps.

- Basket body assembly for complete welds, and required minimum mesh weld locations.
- Filled vent holes – usually on hoops
- Overall condition and conformity to drawing(s).
 - Hoops for height.
 - Rim for width and length and alignment.
 - Lid prop lugs in correct ends.
 - Fore/aft strut in hoop if required by drawing.
- Material lists complete.

CARGO BASKET BODY FABRICATION - COMMON

1 2 3
Complete
(initial or SCA #)

- e. Tag complete basket body assembly in preparation for powder coating.

12. Powder Coating

- a. Parts are to be powder coated white in accordance with commercial practices.
b. Record powder coating PO.
c. Inspect powder coating on receiving.
d. Tag basket body assembly and place into stock in preparation for assembly.

dk dk N/A

Work Order: 2017-19

Material Tracking Sheet

1 of 2

Bell 206L / 407

Date Opened: 24 JAN 2017

HIGH Basket Fabrication

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
	<u>328C</u>		76611-01	Basket Assembly		
Step 1				<i>Rim Assembly</i>		
	. 2		--	3/4" Tube - Long Rim (93.25")	4130 Steel, 3/4" x 0.035 Sqr. Tube	<u>15072</u>
	. 2		--	3/4" Tube - Short Rim (22.5")	4130 Steel, 3/4" x 0.035 Sqr. Tube	<u>15072</u>
Step 2				<i>Weld Rim Assembly</i>		
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	<u>14033</u>
Step 3				<i>Inspection - Rim</i>	None	
Step 4				<i>Frame Assembly</i>		
	. 4		76623-01	Hoop - standard	4130 Steel, 1/2" x 0.035 Sqr. Tube	<u>DR 14033 15072</u>
	. 1		76621-01	Forward Attachment Hoop		<u>15072</u>
	. 1		76622-01	Aft Attachment hoop		<u>15072</u>
	. 4		--	1/2" Tube - spine	4130 Steel, 1/2" x 0.035 Sqr. Tube	<u>15072</u>
Step 5				<i>Weld Frame Assembly</i>		
	. A/R		--	Welding Rod	ER70S-2 TIG Rod	<u>14033</u>
Step 6				<i>Inspection - Frame Assembly</i>	None	
Step 7				<i>Mesh Assembly</i>		
	. 1		--	Mesh (Body - 56" x 96")	3/4-16F Expanded Mild Steel sheet	<u>16009</u>
	. 2		--	Mesh (End - 22" x 19")	3/4-16F Expanded Mild Steel sheet	<u>16038</u>
Step 8				<i>Weld Mesh</i>		
	. A/R		--	Welding Rod	ER70S-6 MIG Wire	<u>15059</u>
Step 9				<i>Weld Basket Components</i>		
	. 1		49215-01	Spacer (Lid prop)	304 Stainless Steel, 1/2" Dia.	<u>DR 14028</u>
	. A/R		--	Welding Rod	ER308L TIG Rod	<u>2015-84</u>

Work Order: 24 J+K 2017-19

Date Opened: 24 JAN 2017

Material Tracking Sheet
Bell 206L / 407
HIGH Basket Fabrication

2 of 2

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
Step 10				Clean Up	None	
Step 11				Inspection - Final Assembly	None	
Step 12				Powder Coating		